Patent

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: LARRY L. BRADFORD et al.	Docket No: ACA 6124 PDUS
Serial No: 09/392,434	Examiner: R. Sergent
Filing Date: September 9, 1999	Group Art Unit: 1711
Title: POLYURETHANE FOAM CONTAINING FLAME RETARDANT BLEND OF NON-OLIGOMERIC AND OLIGOMERIC FLAME RETADANTS	

PRELIMINARY AMENDMENT

Honorable Assistant Commissioner for Patents
Washington, D.C. 20231
Sir:

Please amend the above-identified application as follows:

In the Claims:

Amend Claims 1 and 9 so that they appears as follows:

-- 1. A polyurethane foam that contains an effective amount for flame retardancy of a flame retardant blend consisting essentially of: (a) a non-oligomeric, non-halogenated, alkyl group-containing phosphate ester flame retardant; and (b) an oligomeric, non-halogenated organophosphate flame retardant having a phosphorus content of no less than 10%, by weight, a hydroxy functionality of no more than about 30 mg KOH/g, and at least three phosphorus atom-containing units therein. --; and

D1

-- 9. A polyurethane foam that contains an effective amount for flame retardancy of a flame retardant blend consisting essentially of: (a) from about 40% to about 70%, by weight of the blend, of a non-oligomeric, non-halogenated phosphate ester flame retardant; and (b) from about 30% to about 60%, by weight of the blend, of an oligomeric, non-halogenated organophosphate flame retardant having a phosphorus content of no less than 10%, by weight, a hydroxy functionality of no more than about 30 mg KOH/g, and at least three phosphorus atom-containing units therein. --.

D2

REMARKS

Newly presented Claims 1 and 9 more narrowly define the present invention so as to distinguish over the cited prior art.

The cited Fearing patents (U.S. Patent Nos. 4,199,534 and 4,268,633) both require the use of a flame retardant that is a phosphate/*phosphonate* species, whereas the pending Claims recite the presence of an organo*phosphate* material.

The Sicken patent requires the use of an organophosphate that has significantly greater hydroxy functionality than the organophosphate recited in the present Claims. The Sickens component is preferably in the range of 125 mg of KOH/g as described ed in its Example 1 whereas the applicants utilize a material that has a hydroxy functionality of no more than about 30 mg KOH/g so as to be substantially non-reactive with the polyurethane foam formulation, unlike the Sickens component.

The cited Keppeler patent, like Sicken and unlike the claimed invention, requires a flame retardant that is reactive, as mentioned in the last three lines of the Abstract and at Col. 7, lines 33-36. In this regard, it should be noted that its Examples 1-9, in particular, all illustrate the use of diethyl N,N-bis(2-*hydroxy-*